



ELSEVIER

Contents lists available at ScienceDirect

Healthcare

journal homepage: www.elsevier.com/locate/healthcare

Opinion paper

Implementation of The Lancet Commission on Global Surgery in India

Nakul Raykar^{a,b,*}, Swagoto Mukhopadhyay^{b,c}, Saurabh Saluja^{b,d}, Sheetal Amte^e,
Siddharth David^{f,g}, Jesudian Gnanaraj^{h,i}, Raman Kataria^j, Balaram Jadhav^f, Walt Johnson^k,
John Meara^b, Nandakumar Menon^{l,m}, Radhakrishna D. Prabhu^m, Devi Shettyⁿ, Ravikant Singh^{f,o},
Ravindranath Tongaonkar^{f,m}, Ravindra Vora^{f,m}, Nobhojit Roy^{f,p}



^a Department of Surgery, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, USA

^b Program in Global Surgery and Social Change, Harvard Medical School, Boston, USA

^c Department of Surgery, University of Connecticut, USA

^d Department of Surgery, Weill Cornell Medical Center, USA

^e Anandwan Maharogi Sewa Samiti, Warora, India

^f Implementing The Lancet Commission in Global Surgery in India (i-LCoGS), India

^g Department of Surgery, BARC Hospital, Mumbai, India

^h Department of Electronics and Instrumentation, Karunya University, India

ⁱ Karunya Rural Community Hospital, Karunyanagar, India

^j Jan Swasthya Sahyog, Ganiyari, India

^k Essential and Emergency Surgical Unit, World Health Organization, Geneva, Switzerland

^l Gudalur Adivasi Hospital, Gudalur, India

^m Association of Rural Surgeons of India, Dhule, India

ⁿ Narayana Health, Bangalore, India

^o Doctors For You, Mumbai, India

^p WHO Collaborating Centre for Research in Surgical Care Delivery in LMICs, BARC Hospital, Mumbai 400094, India

In 1993, Indian surgeon JK Banerjee published his manifesto titled “Concept and Practice of Rural Surgery” on surgical access for the Indian poor.¹ Banerjee lamented the state of medical training which focused on producing doctors for the urban elite instead of the rural poor. He decried that functional hospitals were located in the cities “with no communication” to primary health centers while teaching institutions and district hospitals were “impoverished”. The vast majority of the Indian population, he wrote, was without access to surgical care.

Today, over two decades later, little has changed. Research shows that at least 5 billion people around the world lack access to safe, timely, and affordable surgical and anesthesia care, including over 90% of the South Asian population.² Indian operative volume fulfills less than 20% of need.³ The density of surgeons, anesthesiologists, and obstetricians is a paltry 6.1 per 100,000, many fold below minimum thresholds and with rural densities lagging far behind urban averages.⁴

In a nation of 1.2 billion spread across 30 states and the complex governance structure that follows amidst a chronically underfunded health system, where does one begin to rectify these deficits⁵? Like JK Banerjee, surgeons from the Association of Rural Surgeons of India (ARSI) believed in getting right to work. Decades before The Lancet Commission was even conceived, they established hospitals in the most

remote Indian villages and dedicated their lives to providing surgical care to the poor. And while they have collectively treated thousands, they are the first to admit that large-scale policy change has eluded them.

Thus in 2015, as The Lancet Commission on Global Surgery asked how its report’s findings could be translated from paper to policy, a symbiotic relationship was borne. Surgeons in ARSI believed the renewed global attention towards surgical access for the poor could help them break through the Indian health policy landscape and effect change.

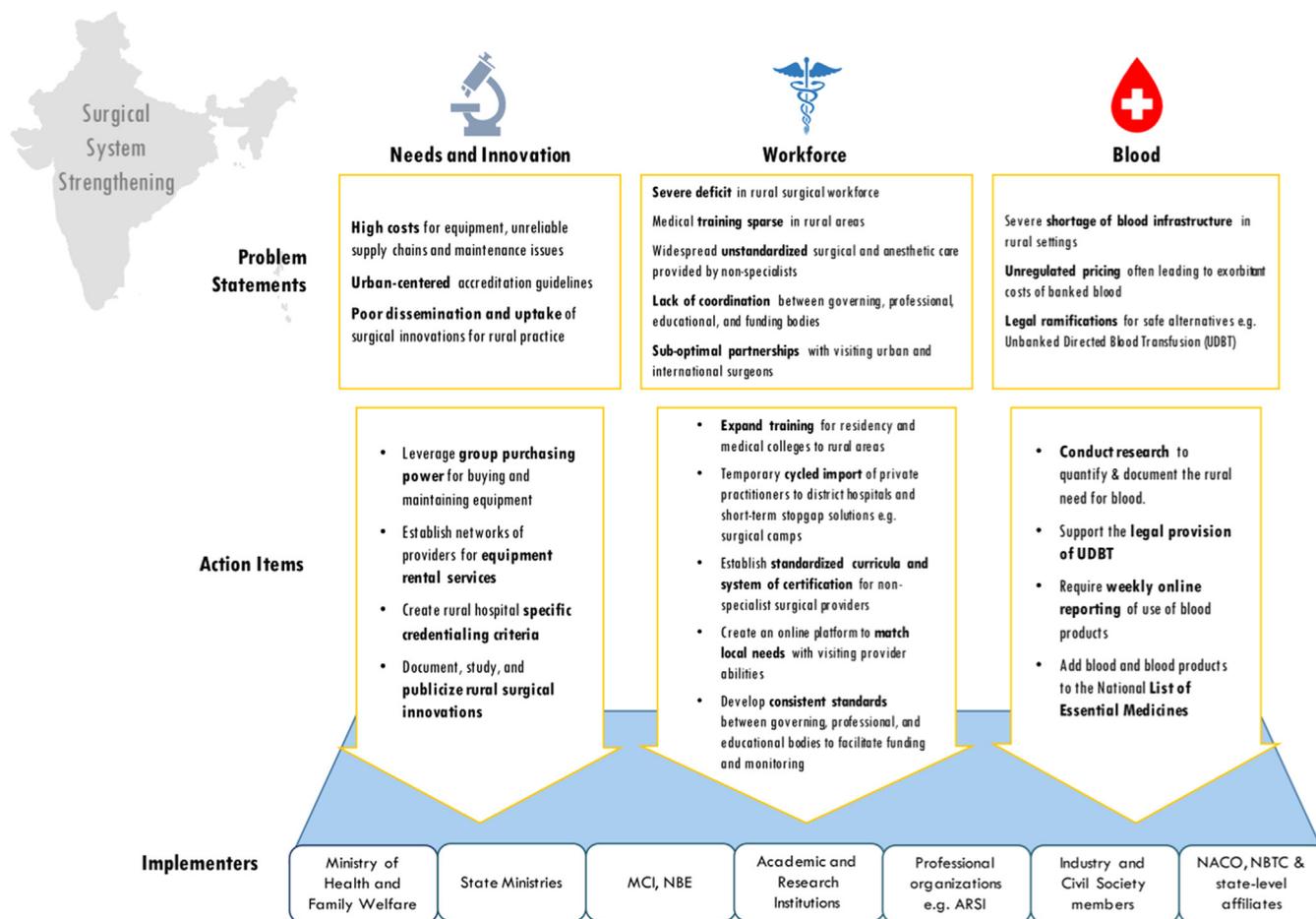
In late 2015, a group of ARSI surgeons partnered with a team from The Lancet Commission on Global Surgery and Harvard Medical School to advance surgical access in India. Focusing on short-and-medium term solutions to key deficits in infrastructure, equipment, workforce, and blood availability, the resulting Karad Consensus Statement⁷ (KCS, Fig. 1), was endorsed by the full gathering at the annual meeting of the ARSI in Karad, India.

On March 11th, 2016, The Lancet Commission on Global Surgery partnered with the World Health Organization (WHO) and ARSI to convene sixty stakeholders representing a broad spectrum of the Indian healthcare landscape in New Delhi. The objective was simple: to identify solutions to bring safe, affordable, and timely surgical and

* Corresponding author at: Department of Surgery, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, USA.

E-mail addresses: nraykar2@gmail.com (N. Raykar), johnsonw@who.int (W. Johnson), john.meara@childrens.harvard.edu (J. Meara), devishetty@narayanahealth.org (D. Shetty), ravikant.singh@doctorsforyou.org (R. Singh).

<https://doi.org/10.1016/j.hjdsi.2018.11.001>



ASSOCIATION OF RURAL SURGEONS OF INDIA - KARAD CONSENSUS STATEMENT 2015

The Lancet Commission on Global Surgery

Fig. 1. Summary of the The Karad Consensus Statement.

Table 1
Sample of commitments at LCoGS-WHO India surgical forum.

- The Indian Ministry of Health and Family Welfare's Office of the Directorate General of Health Services will sponsor a 5 district pilot study on scale-up of surgical care based on principles highlighted in the Karad Consensus Statement
- The World Health Organization will coordinate with LCoGS-India to establish a WHO Collaborative Center for Excellence in Essential and Emergency Surgery, the first for the WHO-South East Asia Regional Office distribution
- Safe surgery NGO, Lifebox, will partner with CARE-India to launch a major initiative to upscale surgical safety in Bihar, starting with distribution of pulse oximeters and training on operative and anesthesia best practices
- The Association of Rural Surgeons of India (ARSI) will partner with academic institutions to upgrade its academic journal, *Rural Surgery*, to serve as the premiere journal for low-resource surgical care provision around the world
- Clinician-researchers within the ARSI network will partner with the Harvard Medical School Program in Global Surgery and Social Change to study workforce scale-up solutions including the development of curriculum for non-anesthesiologist administered spinal anesthesia
- Indian social service juggernaut, Anandhwan, will lead workforce leadership seminars, focusing on inspiring the next generation of practitioners towards service of the poor
- The ARSI will leverage its rural practitioner network for broad data collection aimed at understanding the surgical burden and existing availability of care in rural settings in partnership with the healthcare journalism and data visualization organization, Health Analytics India.
- The ARSI, the Association of Surgeons of India, the Indian Association of Pediatric Surgeons, the Federation of Obstetricians and Gynecologists of India, the Indian Society of Anesthesiologists, and the Indian Orthopedic Association signed a statement urging immediate action by the government to remedy the blood drought in rural settings and promising continued advocacy

anesthesia care to the country's poorest. The group included representatives of the Indian Ministry of Health and Family Welfare, renowned social service leaders, and leaders of academia, professional societies, private hospitals, and industry. Stakeholders came prepared with 64 formal and informal commitments related to items in the Karad Consensus Statement. A sampling of these commitments are listed in Table 1. Most impressive was the emphatic endorsement of a vision for shared responsibility for Indian surgical systems strengthening.

Here we present Implementing The Lancet Commission on Global Surgery in India (i-LCoGS-India): a structured, systematic process for surgical and anesthesia systems strengthening in India. Backed by The Lancet Commission on Global Surgery, the World Health Organization and, most importantly, driven by local champions of surgical and anesthesia care in India, i-LCoGS-India is an implementation organization, focused on adapting the recommendations highlighted by The Lancet Commission on Global Surgery to the Indian context. With support from private philanthropy, i-LCoGS-India established a core Secretariat based in Mumbai in August 2016 and provides the administrative and research backbone to support partners in answering subcontinent-wide, high-quality research questions to inform policy implementation based on local priorities.⁶ Another Secretariat has been established in India's capital, New Delhi, to facilitate national level advocacy on key policy issues. A field office has been established in Patna, the state capital of Bihar, focused on coordinating primary research on surgical access and care quality in district hospitals in partnership with NGOs and local government. Bihar is particularly important to this effort, as it lays

claim to one of the lowest development indices in India. Six i-LCoGS-India ‘Centers of Excellence’ confer funding and collaborative energy to Indian clinicians and researchers who have been leading the way in the areas of leadership, workforce development, low-cost surgery, context-appropriate technology, surgical innovation, and workforce training. Equally important, i-LCOGS-India also consists of a wide range of stakeholders ranging from clinical medicine to social-service NGOs and private industry, and will harness that energy into its four working committees based on *Global Surgery 2030: Infrastructure and Service Delivery, Workforce, Information Systems and Data Management, and Finance and Economics*.

The success of i-LCoGS-India will hinge on a goal-directed, transparent agenda that will provide substantive value to current and future patients and providers throughout India. It will require committed partnerships between stakeholders to continue thriving and an unrelenting focus on addressing the most pertinent issues based on local priorities. Through this process, we plan to establish a scalable model to actualize the Lancet Commission on Global Surgery’s *Global Surgery 2030* – a document based on global consensus – into local realities. Billions of patients without access to safe, affordable, surgical and anesthesia care will be counting on it.

Conflict of interest

The authors have no conflicts to disclose.

References

1. Banerjee J. Concept and practice of rural surgery.
2. Alkire BC, Raykar NP, Shrimme MG, et al. Global access to surgical care: a modelling study. *Lancet Glob Heal*. 2015;3:e316–23.
3. Ng-Kamstra J, Raykar N, Lin Y, Mukhopadhyay S, Saluja S, Yorlets R. et al. Data for the sustainable development of surgical systems: a global collaboration; 2015.
4. Holmer H, Lantz A, Kunjumen T, et al. Global distribution of surgeons, anaesthesiologists, and obstetricians. *Lancet Glob Heal*. 2015;3(Suppl 2):S9–11. [https://doi.org/10.1016/S2214-109X\(14\)70349-3](https://doi.org/10.1016/S2214-109X(14)70349-3).
5. Patel V, Parikh R, Nandraj S, et al. Assuring health coverage for all in India. *Lancet*. 2015;386:2422–2435. [https://doi.org/10.1016/S0140-6736\(15\)00955-1](https://doi.org/10.1016/S0140-6736(15)00955-1).
6. Meara JG, Leather AJM, Hagander L, et al. Global surgery 2030: evidence and solutions for achieving health, welfare, and economic development. *Lancet*. 2015;386:569–624. [https://doi.org/10.1016/S0140-6736\(15\)60160-X](https://doi.org/10.1016/S0140-6736(15)60160-X).
7. Association of Rural Surgeons of India. The Lancet Commission on Global Surgery Consensus Committee. The Consensus Statement on Surgical System Strengthening in Rural India. *J. Deliv. Sci. Innov*. 2018.